surface exhibiting very coarse and irregular growth striæ. Color yellow, plain or marked with irregular black lineations, apex black. Whorls 6, convex; suture well impressed. Aperture a little oblique, sub-rotund, yellowish within. Peristome simple, very thin. Columella white, biplicate, not prominent.

Length 10; diam. 7 mm.

Habitat, Wailuku valley, West Maui.

This species is remarkable for the very coarse and irregular growth striæ exhibited on its surface.

Cotypes of these species deposited in the Acad. Nat. Sci. Phila. will be figured in the next volume of the Manual of Conchology.

THE MIOCENE SPECIES OF LYMNAEA.

BY T. D. A. COCKERELL.

In Bull. Am. Mus. Nat. Hist., Dec., 1906, I described two small species of *Lymnæa* from the miocene beds of Florissant. In 1907, at station 1, I found a much larger species, unfortunately not in the best state of preservation. I hoped to find more material in 1908, but as none was obtained, a description from the original type is now offered.

Lymnæa florissantica, n. sp.

Length 21 mm.; diameter about $10\frac{1}{2}$; spire short, scarcely over 5 mm. long, the whorls moderately convex; body-whorl not very convex, with coarse, shallow, vertical grooves. In Baker's key in his Mollusca of the Chicago Area, it runs nearest to *L. palustris*, but it is not at all like that species. It is in reality a miocene representative of *L. emarginata*. In Mr. O. O. Nylander's series of figures of *L. emarginata* (published by the author in a pamphlet, 1901), it closely resembles Pl. 1, f. 7, except that it is distinctly more slender, and the base is narrower, about as in fig. 8, though the rest of the shell is not at all like fig. 8.

The following table separates the miocene species of *Lymnæa*.

Spire short and rather obtuse,
body-whorl large . . . . . 1.

Spire rather or quite long, acute, the apex slender	2.
1. Length over 20 mm., apparently related to *L. emarginata* . . .	*L. florissantica*, n. sp.
Length 6 mm. or less, perhaps related to *L. catascopium* . .	*L. scudderi* Ckll.
2. Small species, about 8 mm. long, closely related to *L. truncatula* .	*L. sieverti* Ckll.
Larger species, over 18 mm. long .	3.
3. Smaller, aperture about half length of shell; apparently related to *L. palustris*	*L. shumardi* Meek & Hayden.
Larger, aperture over half length of shell; apparently related to *L. stagnalis*	*L. meekii* Evans & Shumard.

L. shumardi and *meekii* are from the White R. beds; the others are from Florissant. *Lymnæa* was extraordinarily well developed in the Oligocene of Britain. As my memory serves me it seems that the minor modern groups were already well marked, and it may be considered probable that the types of *L. stagnalis*, *palustris* and *truncatula*, at least, were developed first in the old world, and reached America during the tertiary period. This is also suggested by the fact that the older (Laramie and Eocene) American species of *Lymnæa* do not suggest the modern circumpolar groups.

FALSE SHELLS.

BY C. W. JOHNSON.

Among the many specimens received from young collectors for determination there are occasionally non-molluscan forms so closely resembling shells, that they have been mistaken for mollusks; in fact, they have even deceived some of the more experienced conchologists.

In the more primitive crustacea, including the *Phyllopoda*, especially in the family *Estheriidæ* and the *Cladocera* and *Ostracoda*, the carapace is largely developed and forms a broad oval shell covering